

## What to do if you think you have a mosquito-borne disease

If you get any unusual illness – especially in the summer months – with any of the above symptoms, see your doctor at once. No specific treatment or vaccine (for humans) exists for these diseases. However EEE and WNV vaccines for horses are available.

## How to protect yourself from mosquito-borne diseases

- Limit outdoor activity after dark during peak mosquito season.
- Avoid known mosquito-infested areas (e.g. swamps, marshes, etc.) during those times as well.
- When outdoors, after dark during mosquito season, wear long sleeves and long pants to physically limit mosquito biting.
- Use screens on windows and doors.
- When camping out, sleep under mosquito nets.
- Insect repellents containing 10-60 percent DEET used properly are the most effective protection against mosquitoes. DEET products include Off®, Cutter®, Muskol®, and many others.
- Use DEET concentrations no higher than 10 percent for small children.
- Remove sources of standing water where mosquitoes can breed: tires, cans, pet dishes, clogged rain gutters, etc.

- Watch and listen for health department alerts and warnings about mosquito disease outbreaks.
- Vaccinate horses against EEE and WNV
- Report or fix water leaks, especially under houses.
- Do not allow water from sinks and washers to drain into ditches.

## What to do if you see a dead bird

Birds, especially crows and blue jays are extremely sensitive to WNV. If infected, many can die. Reporting and testing of dead birds to the Health Department is an important means for identifying WNV in an area. If you see a dead bird, call your local health department. If it is a crow or blue jay, you may be asked to deliver it so that it can be tested. Follow handling instructions from the health department and do not touch the bird without gloves.

*For more information about mosquito-borne viral diseases, call your county health department or the Mississippi Department of Health at 601-576-7725. Or visit our website at <http://www.msdh.state.ms.us/epi/virus>*



### MISSISSIPPI STATE DEPARTMENT OF HEALTH

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# Mosquito-Borne Viral Diseases

*What They Are  
and  
How to Protect Yourself*

## What are mosquito-borne viral diseases?

Also called **arboviruses** (for **arthropod- borne viruses**), these viruses can be transmitted to humans and animals by infected mosquitoes. Only certain types of mosquitoes carry viruses, and very few are even infected. A mosquito first becomes infected by feeding on a bird that has the virus. The virus lives in the mosquito and can be transmitted if it bites another bird. Normally, the virus is transmitted between birds and mosquitoes, but occasionally certain types of mosquitoes will bite a person or animal.

Arboviruses occur all over the world, but five main viruses exist in the United States: eastern equine encephalitis (EEE), western equine encephalitis (WEE), St. Louis encephalitis (SLE), LaCrosse (LAC) encephalitis, and most recently, West Nile virus (WNV) which first occurred in the United States in 1999. In Mississippi, there have been human cases of SLE, EEE, and LAC. WNV has been detected in horses and birds, and will likely occur in humans.

### St. Louis Encephalitis

SLE causes illness in humans only. Historically, it has been the most common arbovirus in Mississippi, with 337 cases reported to date. SLE primarily affects the elderly. It occurs in summer and early fall. SLE rarely causes death, although approximately 15 percent of the patients with severe symptoms die.

### Eastern Equine Encephalitis

EEE causes illness in humans, horses and some birds. Very few human cases of EEE have ever occurred in Mississippi (only four cases reported), but more than 100 sick horses have been reported. Cases occur from spring to fall. People of all ages can get the disease, but children are more likely to have severe illness or die. Approximately 30 to 60 percent of persons with symptomatic EEE die.



### LaCrosse Encephalitis

LAC causes illness in humans. The virus is most common in the upper Midwestern US but has been reported at least 11 times in Mississippi. Cases occur from spring to fall. Most cases occur in children less than 16 years of age. Only about 1 percent of people with symptomatic LAC die.

### West Nile Virus

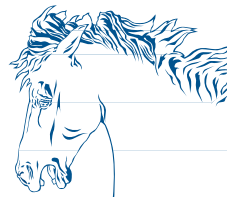
WNV causes illness in humans, horses, and birds. WNV has been reported in Mississippi in horses, birds, mosquitoes and humans. Since 1999, over 200 human cases have been reported in the US. Anybody can get WNV, but people over 50 years of age have more severe disease. Approximately three to 15 percent of people with WNV die. Unlike other arboviruses, certain species of birds, especially crows and blue jays, can also get sick and possibly die from the disease, as can horses.

## How do you know if you have a mosquito-borne viral disease?

All mosquitoes do not have a virus in them, but, the more mosquito bites you get, the greater your risk of catching a disease. Most cases of mosquito-borne disease occur between April and October when mosquito populations are highest. Most people who get bitten by an infected mosquito never get sick, but rather just feel like they have the flu for a few days. In more serious cases, symptoms of mosquito-borne diseases occur four to 10 days after being bitten by an infected mosquito. Illness can begin with fever, headache, muscle aches, nausea and/or vomiting, and may progress to seizures, paralysis, coma, and possibly death. Persons who survive can suffer permanent health effects such as memory loss, paralysis, or personality changes.

## Mosquito-borne diseases in horses

Horses can become ill if infected with EEE or WNV. Illness begins with a fever. The animal can then become unbalanced and walk in circles. Sometimes the horse's lips droop causing the horse to drool.



Eventually the horse may lie down on its side, begin having seizures, and die. Vaccines are available for EEE and WNV.